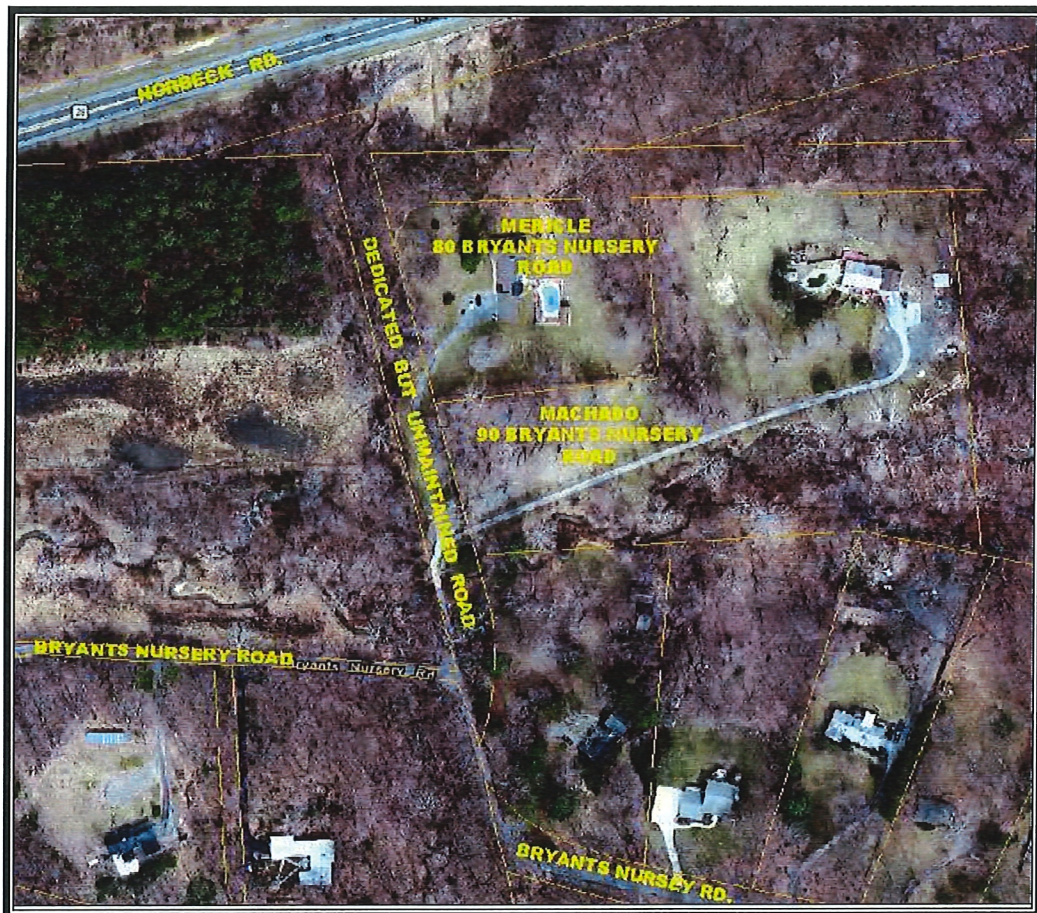




**Dedicated but Unmaintained County Roads (DBUCR) Program
CIP No. 501117**

Unnamed Road between Bryants Nursey Road & Norbeck Road



**ENGINEERING REPORT
August 2018**

**Montgomery County Department of Transportation
Division of Transportation Engineering**

**100 Edison Park Drive, Fourth Floor
Gaithersburg, Maryland 20878
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I. INTRODUCTION

Montgomery County Department of Transportation (MCDOT), Division of Transportation Engineering prepared this report for the Dedicated But Unmaintained (DBU) road program affected residents of an unnamed roadway as indicated on Plat of Subdivision #6068, lots 1 thru 9, Marian D. Magner Subdivision. The plat does not provide a separate road name for the subject roadway and the property addresses reference Bryants Nursery Road. There are two Affected Property Owners (APO's). On 11/30/17 one APO requested to have the subject roadway evaluated as a part of the DBU program. As per County policy for DBU roads, 50% or more of the APO's are needed to request the study.

The subject roadway segment runs from Bryants Nursey Road north about 730' to property owned by the Hampshire Greens HOA adjacent to Norbeck Road. A bridge is located about 128' north of Bryant's Nursery Road. The proposed improvements will be limited to the segment from Bryants Nursery Road to a point roughly 44 feet north of the bridge. This segment is constructed of asphalt and is roughly 10' in width. This roadway improvement project will include design and construction for roadway pavement, storm drainage and stormwater management and work in the existing stream in accordance with environmental regulations.

This report describes an overview of the DBU program, the existing conditions of Bryants Nursey Road, conceptual design, project schedule, and a budgetary cost estimate for the project.

II. BACKGROUND

1. Background of County DBU Road Policy

County website for DBU roads information:

<http://www.montgomerycountymd.gov/dot-dte/projects/dedicated/index.html>

The following is a chronological order for the establishment of the County DBU roads policy:

- The County Council appropriated funds in FY 2008 Capital Budget for developing the DBU roads policy.
- July 2007-June 2008 (FY 2008)-Community stakeholders and representative from the County met periodically and developed the policy.

- September, 2009-the County Executive transmitted a draft policy to the County Council.
- October, 2009 – County Council Transportation and Environment (T&E) Committee reviewed and commented on the draft policy.
- December, 2009-the DBU roads policy was adopted.
- January, 2010-The County Executive recommended the Capital Improvement Program (CIP) budget for the County DBU Roads program.
- May, 2010-The County Council approved CIP for DBU roads.
- November 17, 2015-The County Council adopted a revised DBU roads policy.
- September 2016 -The County Council adopted a revised DBU roads policy.

2. Background of DBU County Roads and Public Information

MCDOT compiled the list of County DBU roads from a report by Montgomery County Civic Federation and the County's inventory utilizing the latest State Highway Administration (SHA) MAARS Report, Geographic Information System (GIS) map/aerial photos, existing subdivision plats, existing deeds, and status of the County maintenance by the County's depots. As a result of the research, a total of fifty-nine roads within the County have been identified as DBU roads. The list is included in Appendix A.

APO's who are interested in making physical improvements to their DBU Road have 3 choices available to undertake the necessary improvements to bring a DBU Road into compliance with County standards. They are:

1. Self Build/Self Maintain
2. Self Build/County Maintain
3. County Build/County Maintain

MCDOT received an application from the community of Bryants Nursery Road in November 2017 for the County Build/County Maintain option. The application is included in Appendix C.

The purpose of this report is to address the County Build/County Maintain option.

III. EXISTING CONDITION

MCDOT developed a plan sheet from an aerial photo for Bryants Nursey Road to assist in the existing conditions assessment. The map is provided in Appendix F. MCDOT also conducted several site visits to Bryants Nursey Road.

1. Roadway

The subject roadway serves as access to 2 properties, lots #7 and #8 as indicated on the plat in Appendix D. The roadway is open section (no curbs), with an asphalt surface. The asphalt width is approximately 10' and existing right-of-way is 60'. The asphalt pavement appears to be in relatively good condition, however the depth of pavement is not known.



THE DBU SEGMENT OF BRYANTS NURSERY ROAD

2. Bridge

The DBU has a wood bridge that has a steel sub-structure, stone abutments, spans 21' and has an 11' width. The height of the deck is about 3.5' above the bottom of stream. The stream has a sandy bottom with some rip rap armoring along the banks.



EXISTING BRIDGE ALONG THE DBU



EXISTING BRIDGE ALONG THE DBU OVER UNNAMED STREAM

3. Drainage

The drainage areas are delineated in aerial GIS map in Appendix F.

The Bryants Nursery regional drainage area, ultimately drains to Northwest Branch – Right Fork. In discussions with the affected property owners the flood water surface elevation occasionally exceeds the bridge deck by as much as 1 foot rendering their property inaccessible by motor vehicle during heavy flows.



UPSTREAM OF EXISTING BRIDGE

The drainage areas are composed of several different types of soil as shown on the soils map in Appendix F.

4. Utilities

MCDOT investigated existing utilities within the project site. Based on meeting with property owners, there are no water and sewer services provided by WSSC.

There are also no gas facilities provided by Washington Gas Company. During the field visits, MCDOT found neither manholes nor valves on the ground to indicate either gas, water or sewer lines. The property owners reported the only public utility feeding the houses is electric power.

There are two electric power poles near the project site, but it is not anticipated that they will need to be relocated. There are no streetlights within the project area.

5. Trees

MCDOT counted the trees with DBH of 6" or more that are likely to be impacted by the roadway construction. Approximately 17 trees with a diameter greater than 6" are expected to be impacted in addition to smaller trees by the project.



TREES ALONG THE DBU

IV. CONCEPTUAL DESIGN

1. Roadway

The proposed typical section for Road Improvements is shown in Appendix E.

MCDOT proposes an 18-foot wide roadway. The road will have a 1' foot clearance width for emergency vehicles access. The reduced section will decrease the construction costs.

Pavement width and clearance width was coordinated with the Montgomery County Fire & Rescue Services. Any future development, infill or redevelopment will require the road to meet appropriate pavement width, apparatus turnaround and any relevant parking restrictions.

A geotechnical report will be prepared during the design phase. Soil borings will be needed to determine the characteristics of the existing soil. The existing soil conditions will be utilized to determine the pavement design and the adequacy of the soil for environmental site design (stormwater management). For pavement design, it is critical to have an adequate subgrade to prevent pavement failures.

MCDOT assumed that the depth of the excavation will be approximately 1-foot deep for the roadside grass ditches.

2. Bridge

The proposed Bridge Structure will be composed of three 8ft wide x 6ft deep box culverts with concrete wingwalls. The proposed bridge will be 20feet wide and 27feet long. The proposed bridge approach guardrail will tie into traffic safety barriers along each side of the bridge. The proposed bridge section will not alleviate existing flooding problems.

3. Stormwater Management & Drainage and Stream Work

A stormwater management concept approval is required for the Bryants Nursey improvement project. MCDOT proposes an open-section road with 2 feet wide flat bottom grass swales for stormwater management and drainage. A hydrologic and hydraulic study will be required to determine the bridge elevation and sizing of channel under the bridge to allow adequate flow. Fees are required for stormwater management concept review and for a sediment control permit. The fee costs are based on the area that will be disturbed by the proposed improvements. A permit may be required for work in the stream by Maryland Department of the Environment and US Army Corps of Engineers.

4. Trees

There are at least 17 trees that may be impacted by the roadway project. As required, MCDOT will replace them at a ratio of 3 to 1 (51 trees planted) as a part of the project. However, the County cannot guarantee that the same species of trees will be planted in place of removed trees. The landscaping cost is included in the construction cost estimate.

V. PROJECT SCHEDULE

The following is a tentative schedule based upon the assumption that the County Executive and the County Council will approve the funding for the improvements in the upcoming CIP budget request for FY21-26. The County's fiscal year starts on July 1. The County's FY 21 starts on July 1, 2020.

Phase	Duration	Starting Date	Ending Date
Design	8-12 months	July, 2020	July, 2021
Property Acquisition	N/A	N/A	N/A
Construction	10 months	July, 2021	May, 2022

MCDOT included the property acquisition phase in case easements are needed for road reconstruction.

PROJECT COST ESTIMATE

Design, H&H Study, Permits & Survey	\$428,300
Construction Management, Testing, Inspection	\$70,000
Land Acquisition (none anticipated at concept stage)	\$0
Construction Materials & Labor	\$345,881
Total Project Cost	\$844,181

A total project cost has been estimated for budgetary basis. See cost breakdown in Appendices G and H. The total estimated project cost is \$844,181. As shown in Appendix B, there are a total number of two (2) affected properties. The total project cost will be divided equally among the 2 affected properties. Each household will be responsible for paying the County approximately \$379,881 after deduction of the County's participation cost which is 10% of the total project cost or \$84,418.

County's Participation Cost
 $\$844,181 \times 0.10 = \$84,418$

Each Affected Property Owner's Total Cost
 $(\$844,181 - \$84,418) / 2 \text{ Properties} = \mathbf{\$379,881}$

Affected Property Owner's (APO) Annual Cost Option

An APO has the option to either pay the cost up front or over a 20-year period.

Cost participation by the property owner(s) will be assessed on the property tax of each of the subject properties. If the 20-year option is selected, the total cost is amortized over 20 years using an interest rate based on the County's bond rate for the year prior to construction. For this report the interest rate is assumed to be 2.3% annually. Based on a financed amount of \$379,881 the total annual cost, including interest, to each affected property owner, would be approximately **\$23,900**. The project cost includes design, property acquisition and construction. The design cost includes a geotechnical study, permit fees for stormwater management, survey, and engineering.

VI. PROCEEDING WITH PROJECT

In order to proceed with the County Build/County Maintain scenario, the DBU County Roads Policy (see link pg. 2) requires that at least 60% of the non-government owned Affected Property Owners must agree to participate in the program. Therefore, 60% of 2 = 1.2 or (rounded up) = 2 APO's must concur (vote yes) to proceed with one (1) vote allowed per property.

APPENDIX A

Countywide List of DBU Roads

Updated : August 13, 2018

No.	Road Name	Starting Point (Miles)	Ending Point (Miles)	Total (Miles)	Town
1	AITCHESON LA	0.22 (North of Riding Stable Road)	0.70	0.48	LAUREL
2	ANCHORAGE DR	MACARTHUR BLVD	0.13	0.13	BETHESDA
3	ANCHORAGE PL.	BOLLING LA	ANCHORAGE DR/0.08	0.08	BETHESDA
4	ANDERSON ST.	0.1 (Northwest of Octagon Lane)	0.18	0.08	SILVER SPRING
5	ARDWICK DR	GOLF LA.	WAYCROFT WAY/0.22	0.22	ROCKVILLE
6	ATTLEBORO RD	NORWOOD RD	DUXBURY DR/0.25	0.25	SILVER SPRING
7	AUTH LA	0.09 (South of Hermleigh Road)	0.13	0.04	SILVER SPRING
8	BELFAST PL	KINGSGATE RD	0.15	0.15	POTOMAC
9	BELLE COTE DR	KRUHM RD	0.42	0.42	BURTONSVILLE
10	BENTLEY RD	0.36 (North of Olney Sandy Spring Road)	0.50	0.14	OLNEY
11	BIRCHCREST LA	FREDERICK RD	0.22	0.22	CLARKSBURG
12	BISHOP DR	WINTHROP DR	0.05	0.05	SILVER SPRING
13	BLANTON RD	GOOD HOPE RD	0.15	0.15	SILVER SPRING
14	BOLLING LA	ANCHORAGE DR	ANCHORAGE PL/0.11	0.11	BETHESDA
15	BRATTON DR	SUNSET DR	BRATTON CT/0.09	0.09	ROCKVILLE
16	BROOKS RD	RIDGE DR	KIRK LA/0.15	0.15	ROCKVILLE
17	CARNAGIE AVE	NEEDWOOD RD	0.12	0.12	DERWOOD
18	CINDY LA	SEVEN LOCKS RD	0.08	0.08	BETHESDA
19	CIRCLE DR	RIDGE DR/0.68	GLEN MILL RD/1.02	0.34	ROCKVILLE
20	CLOVER LA	PERSIMMON TREE RD	0.06	0.06	POTOMAC
21	CREST HILL LA	0.22 (South of Briggs Chaney Road)	0.51	0.29	SILVER SPRING
22	CROWFOOT LA	COPLEY LA	0.09	0.09	SILVER SPRING
23	DOMINION DR	0.2 (North of Olney Sandy Spring Road)	0.25	0.05	SANDY SPRING
24	DUXBURY RD	ATTLEBORO RD	0.14	0.14	SILVER SPRING
25	ECKMOOR RD	ELDRID DR	0.05	0.05	SILVER SPRING
26	EMORY ST	MUNCASTER MILL RD	0.07	0.07	GAITHERSBURG
27	ERSKINE AVE	GLENALLAN AVE	WALLACE AVE/0.10	0.10	SILVER SPRING
28	FAWSETT RD	MACARTHUR BLVD	0.29	0.29	POTOMAC
29	GARDNER PL	CHAPELGATE RD	0.11	0.11	GERMANTOWN
30	GARRETT RD	REDLAND RD/0.00	0.21	0.21	DERWOOD
31	GARY RD	0.31 (North of River Road)	0.35	0.04	POTOMAC
32	GOLF LA	MIDDLESHERE PL/0.10	0.28	0.18	ROCKVILLE
33	HAW LA	EDNOR RD	0.21	0.21	SILVER SPRING
34	HAWHILL END	WILDEN LA/0.07	0.13	0.06	POTOMAC

35	HEIL RD	NEW HAMPSHIRE AVE	0.15	0.15	SILVER SPRING
36	HILLER WAY	ROCKVILLE PIKE	0.10	0.10	ROCKVILLE
37	HILLSDALE DR	HILLSDALE DR/.06	0.10	0.04	KENSINGTON
38	KINGSGATE RD	ROCK RUN DR	0.15	0.15	POTOMAC
39	KIRK LA	BROOK RD	0.04	0.04	OLNEY
40	LONG BRANCH PKWY	DEARBORN AVE	0.06	0.06	SILVER SPRING
41	MAPLE RIDGE CT	HOLLY RIDGE ROAD	0.15	0.15	ROCKVILLE
42	MERRICK RD	WILSON LA	0.13	0.13	BETHESDA
43	MOULTRIE PKWY	LOGAN DR	0.06	0.06	POTOMAC
44	OLD ORCHARD RD	0.38 (South of Ednor Road)	0.52	0.14	SILVER SPRING
45	OLNEY LA	BREADY RD	0.26	0.26	OLNEY
46	OVERHILL RD	GARRETT RD	0.21	0.21	DERWOOD
47	PEMBROKE RD	BRADLEY RD	0.14	0.14	BETHESDA
48	POE RD	0.12 (South of Bradley Blvd)	0.16	0.04	BETHESDA
49	SILVERWOOD LA	MARYLAND AVE	0.21	0.21	BETHESDA
50	STONE RD	KIRK LA	0.09	0.09	OLNEY
51	SUNCREST AVE	FREDERICK RD	0.18	0.18	CLARKSBURG
52	UNITY LA	GLEN MILL RD	0.31	0.31	POTOMAC
53	UPLAND DR	GOOD HOPE RD	0.17	0.17	SILVER SPRING
54	WAYCROFT WAY	GOLF LA	0.27	0.27	ROCKVILLE
55	WILLOW LA	PINETREE ROAD	0.25	0.25	ROCKVILLE
56	WINDSWEPT LA	NEW HAMPSHIRE AVE	0.67	0.67	BRINKLOW
57	WINNPENNY LA	CAPE MAY RD	0.07	0.07	SILVER SPRING
58	WINTHROP DR	PIPING ROCK DR	BISHOP RD	0.06	SILVER SPRING
59	BILTMORE DR	DEARBORNE AVE	0.24	0.29	SILVER SPRING
60	Unnamed Road	BRYANTS NURSERY RD	0.14	0.14	SILVER SPRING

APPENDIX B

List of Affected Properties

LIST OF AFFECTED PROPERTY OWNERS:

<u>HOUSE NO.</u>	<u>OWNER'S LAST NAME</u>	<u>MAILING ADDRESS</u>
1. 80 Byrants Nursey Road	Mericle	80 Byrants Nursey Road, Silver Spring, MD 20905
2. 90 Bryants Nursery Road	Machado	90 Bryants Nursery Road, Silver Spring, MD 20905

APPENDIX C

Application

Hutchings, Jon

From: Linda Mericle <linda.mericle@verizon.net>
Sent: Monday, October 30, 2017 7:55 AM
To: Hutchings, Jon; jmericle@cameronmericle.com
Subject: Re: 80 Bryants Nursery Road/Urgent bridge issue

Mr. Hutchings,

Please allow this email to reflect our request that the County DOT perform a study under the Dedicated but Unmaintained County Roads Program to determine the cost of constructing any required improvements that would bring the bridge that is the only access and exit for 80 Bryants Nursery Road up to minimum County Standards so that the County will maintain this property.

As you aware our neighbor also has to use this bridge to access and exit his property at 90 Bryants Nursery Road as well. Our neighbor has agreed to this study as well. Of course, depending on the costs and other issues, we will then discuss with him what needs to occur and obtain any written authorizations that may be needed.

Since everyone at the County is aware of the urgency of the matter due to the fact that the fire and ambulance station assigned to our properties has said they will not cross the bridge we would like to know when the study can commence. Both families have safety and health issues and are concerned with this situation.

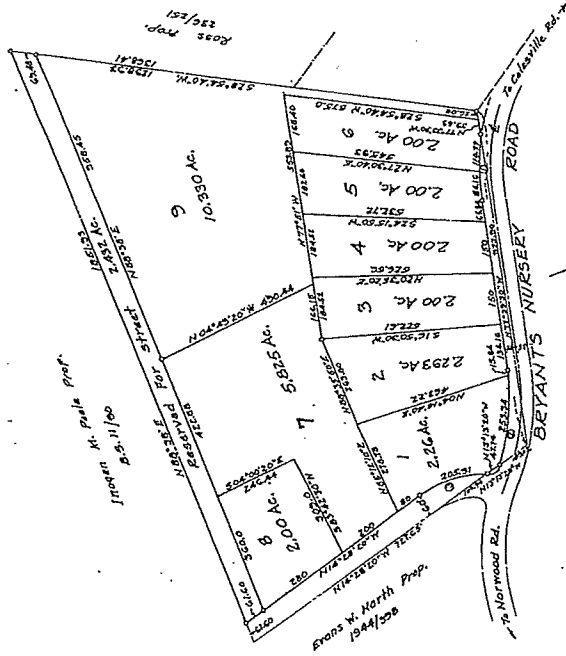
We would also appreciate a written confirmation of receipt of this email and an approximate date for the commencement of the study. Thank you for your assistance and we look forward to your prompt response.

Linda Mericle
301-442-0822

APPENDIX D

Plat of Subdivision

PLAT N6068



SURVEYORS CERTIFICATE

I hereby certify that the plan shown hereon is correct, that it is a subdivision of all the land conveyed from Amy H. Leonard, widow, to Marion D. Wagner, widow, by deed dated August 13, 1960 and recorded among the public records of Montgomery County, Md. in Liber 100 of Folios 100 and 101 and that the pipes marked thus -- have been placed where shown.

August 13, 1960
 DATE
 Edward L. Run
 EXAMINER
 REG. LAND SURVEYOR
 MD. # 3593

OWNERS DEDICATION

I, Marion D. Wagner, owner of the property shown and described hereon, hereby dedicates to the public the minimum building restriction lines and dedicate the street to public use.

Robert J. Leonard
 DATE
 MARION D. WAGNER, WIDOW

MORTGAGEE'S ASSENT

I, hereby assent to this plan of subdivision.

Robert J. Leonard
 DATE
 Amy H. Leonard, widow

Area dedicated to streets = 1.691 Ac. @ 78.8601

LOTS 1 thru 9 MARIAN D. WAGNER SUBDIVISION

COLESVILLE DISTRICT
 MONTGOMERY COUNTY, MARYLAND
 SCALE: 1"=200'

BURTONSVILLE SURVEYS
 2025 SPRINGVILLE RD.
 BURTONSVILLE, MARYLAND

FILED
 SEP 13 1960

No. End A Ave. Chertowning Old Ten
 1- 528.00 17'31" 194.43 162'04" 25' 1917 59.02
 2- 528.00 27'11" 262.18 164'10" 25' 2024 71.55
 3- 528.00 35'41" 205.51 163'24" 16' 2025 106.43

MARYLAND NATIONAL CAPITAL PARK & PLANNING COMMISSION
 MONTGOMERY COUNTY PLANNING BOARD

Approved August 31, 1960

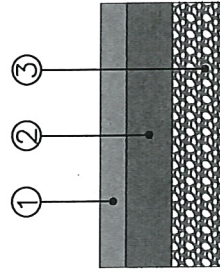
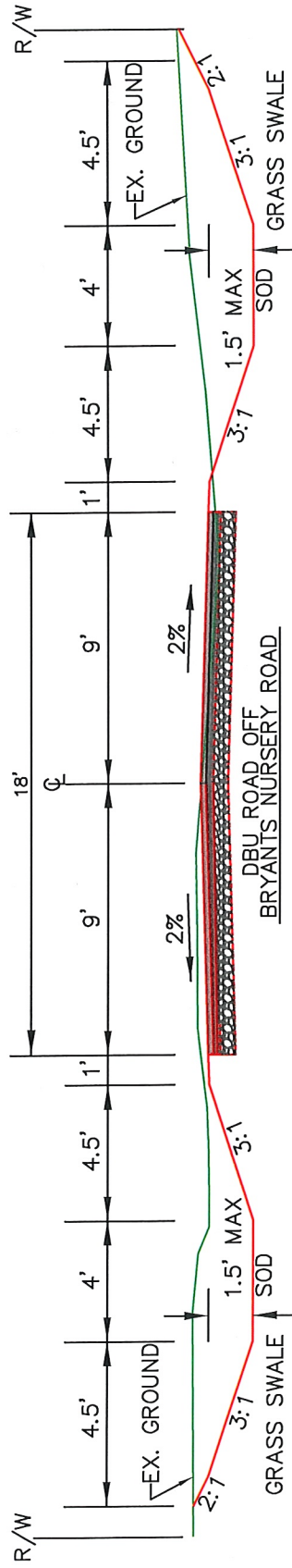
Chairman
 Secretary-Treasurer

M. N. C. P. & P. C. Record File No. 776-50

D-60251

APPENDIX E

Proposed Roadway Typical Section



PAVEMENT DESIGN

- ① 2" HMA SUPERPAVE FOR SURFACE
- ② 3" HMA SUPERPAVE FOR BASE
- ③ 4" MINIMUM GRADED AGGREGATE BASE

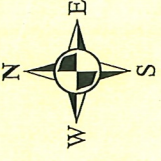
TYPICAL SECTION

BRYANTS NURSERY ROAD IMPROVEMENTS

APPENDIX F

Aerial GIS Map, Drainage Area Map and Soils Map

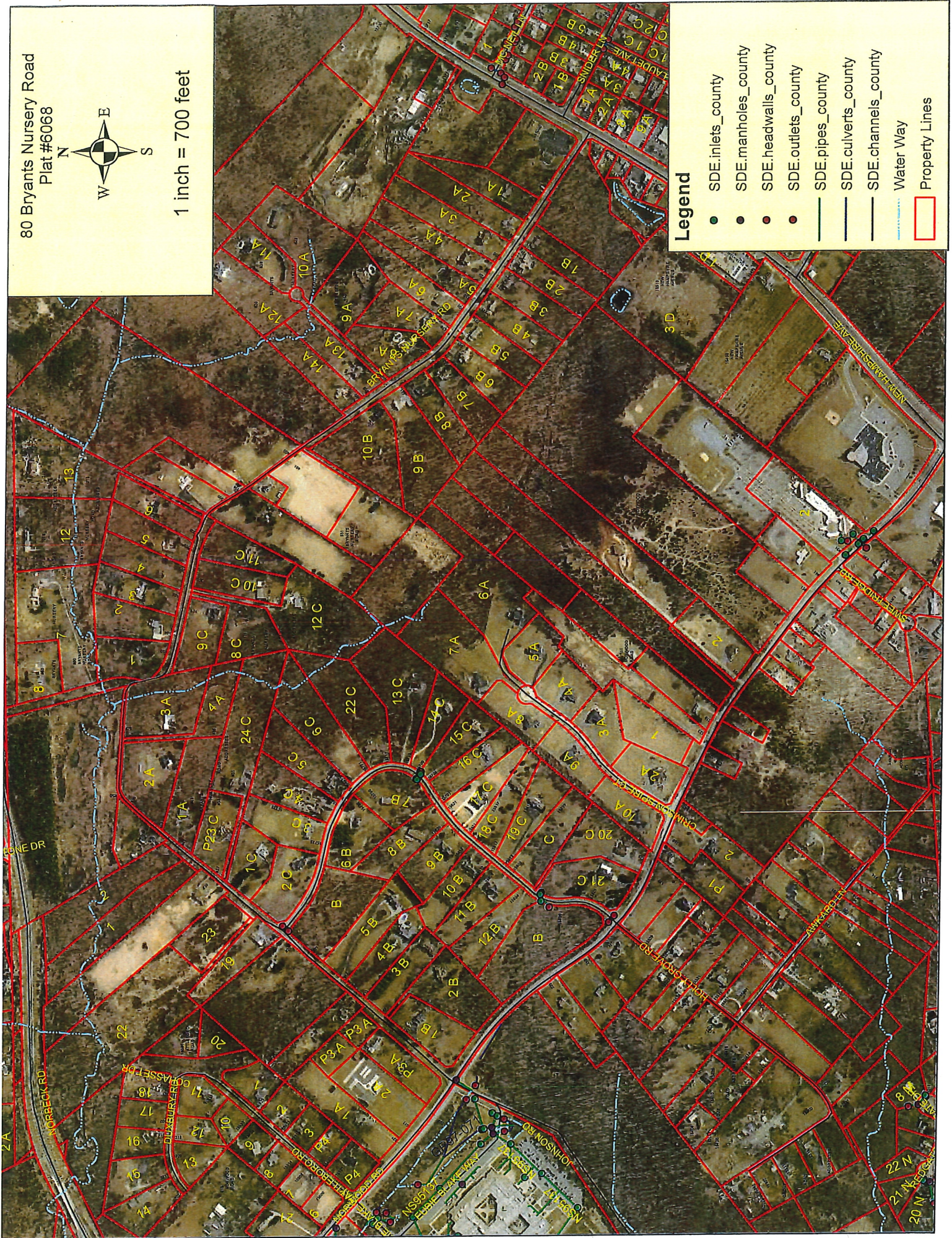
80 Bryants Nursery Road
Plat #6068

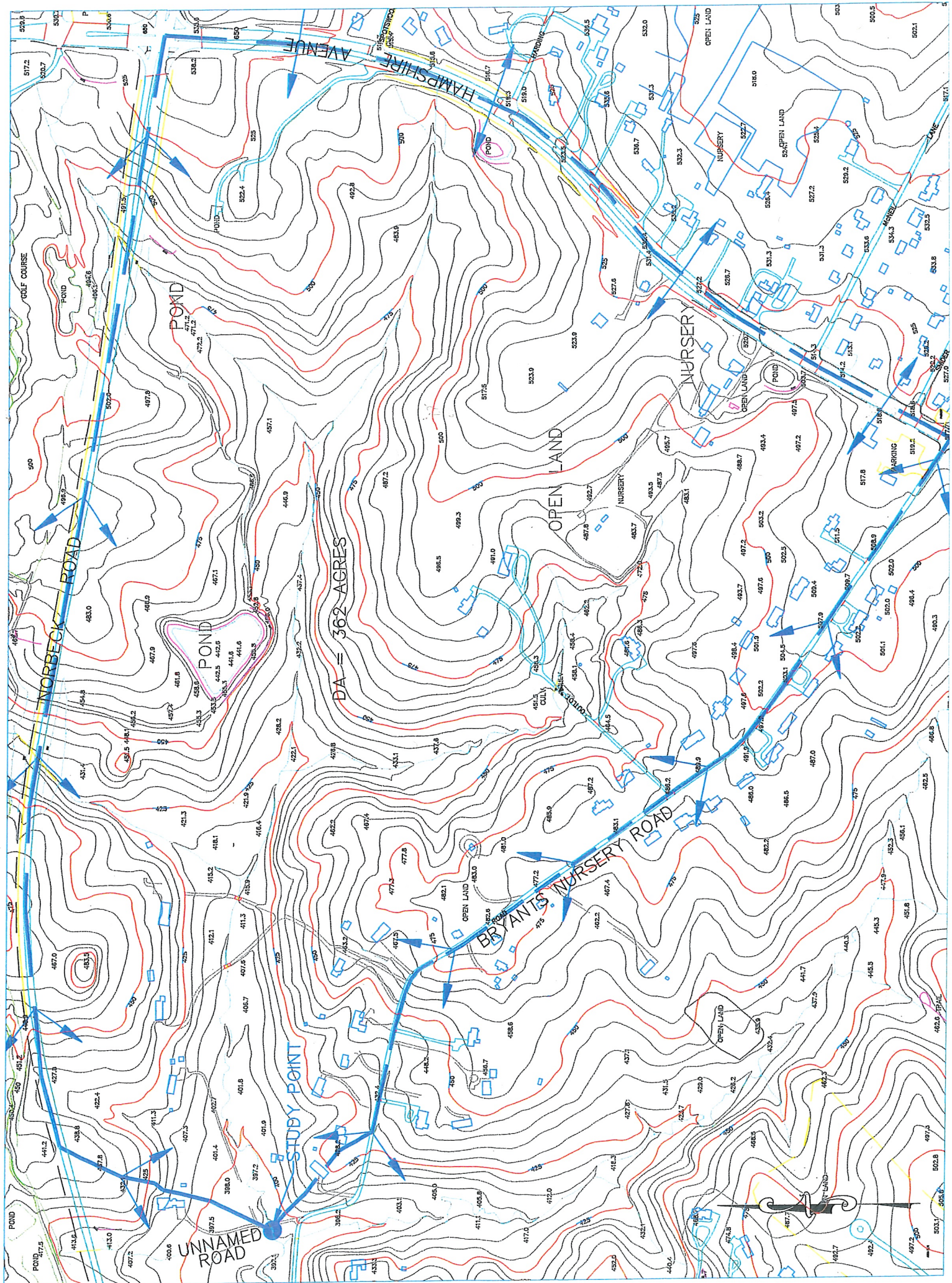


1 inch = 700 feet

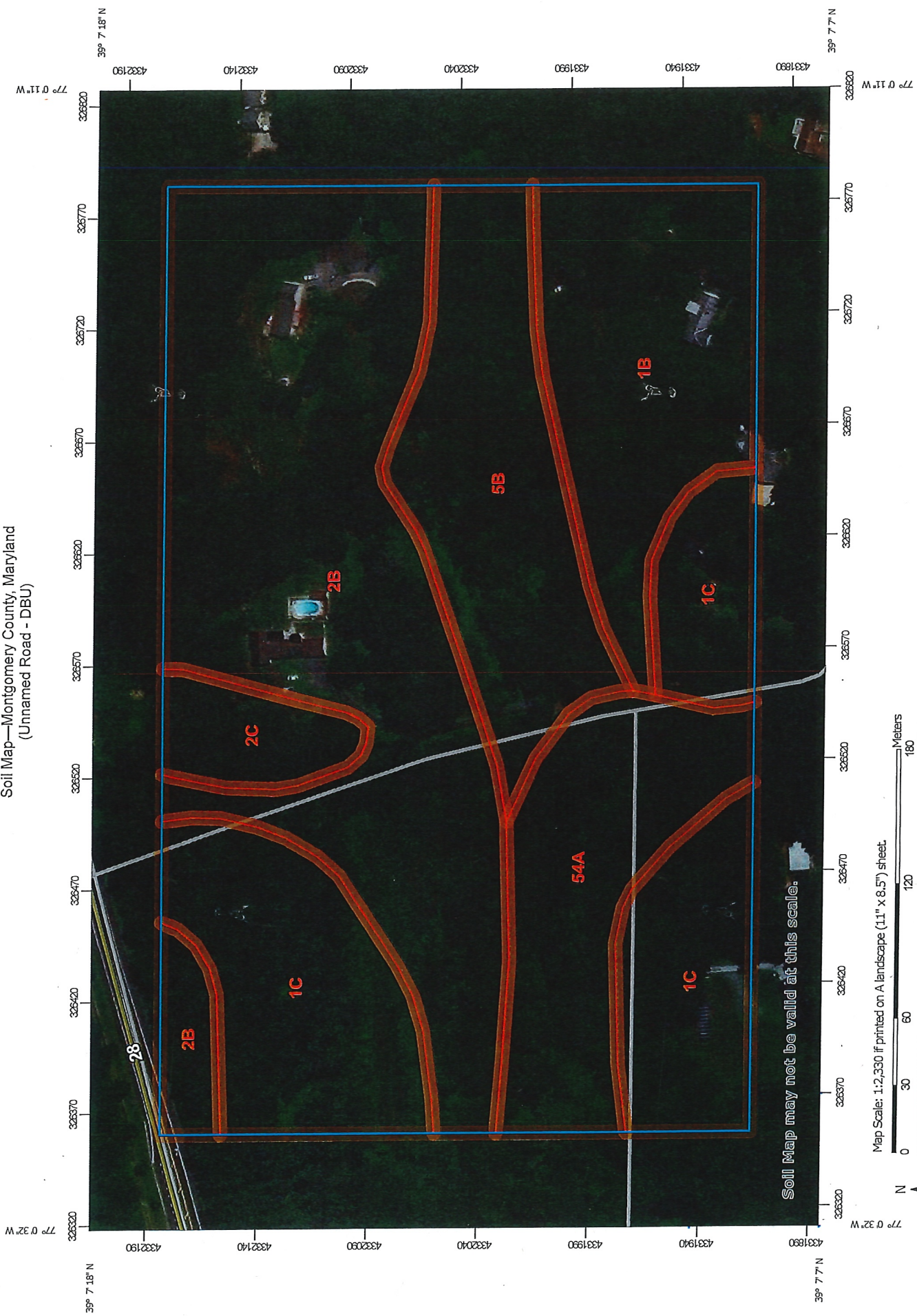
Legend

- SDE.inlets_county
- SDE.manholes_county
- SDE.headwalls_county
- SDE.outlets_county
- SDE.pipes_county
- SDE.culverts_county
- SDE.channels_county
- Water Way
- Property Lines



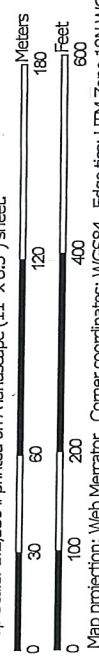


Soil Map—Montgomery County, Maryland (Unnamed Road - DBU)



Soil Map may not be valid at this scale.

Map Scale: 1:2,330 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1B	Gaila silt loam, 3 to 8 percent slopes	3.9	13.7%
1C	Gaila silt loam, 8 to 15 percent slopes	6.1	21.6%
2B	Glenelg silt loam, 3 to 8 percent slopes	10.2	36.4%
2C	Glenelg silt loam, 8 to 15 percent slopes	0.9	3.2%
5B	Glenville silt loam, 3 to 8 percent slopes	3.9	13.7%
54A	Hatboro silt loam, 0 to 3 percent slopes, frequently flooded	3.2	11.3%
Totals for Area of Interest		28.1	100.0%

APPENDIX G

Construction Cost Estimate

BRYANT'S NURSEY ROAD DBU SEGMENT
CIP No. 501117
ENGINEER'S COST ESIMATE FOR NON-BRIDGE (ROADWAY) WORK
June 1, 2018

NO.	ITEM	QTY.	UNIT	UNIT PRICE	TOTAL COST
1001	CLEARING	8	CH	\$ 150.00	\$ 1,200
1002	UNCLASSIFIED GRUBBING EXCAVATION	25	CY	\$ 5.00	\$ 125
1008	TEMPORARY TRAFFIC SIGNS	32	SF	\$ 13.50	\$ 432
1020	DRUMS FOR MAINTENANCE OF TRAFFIC	10	EA	\$ 60.00	\$ 600
1023	FLAGGER	16	HR	\$ 26.00	\$ 416
1026	TEMPORARY ORANGE CONSTRUCTION FENCE	200	LF	\$ 2.00	\$ 400
1027	REMOVE AND RESET TEMPORARY ORANGE CONSTRUCTION FENCE	200	LF	\$ 1.00	\$ 200
1032	CR-6 FOR MOT	10	TONS	\$ 5.00	\$ 50
1034	CONSTRUCTION STAKEOUT	8	CH	\$ 100.00	\$ 800
2001	UNCLASSIFIED ROADWAY EXCAVATION	115	CY	\$ 20.00	\$ 2,300
2002	COMMON BORROW	25	CY	\$ 4.00	\$ 100
2004	TEST PIT EXCAVATION	10	CY	\$ 100.00	\$ 1,000
2005	FULL DEPTH SAW CUTS	30	LF	\$ 6.00	\$ 180
2006	REMOVAL OF EXISTING PAVEMENT	5	CY	\$ 28.00	\$ 140
3004	SELECT BACKFILL USING NO. 57 STONE	10	CY	\$ 65.00	\$ 650
3095	SILT FENCE	200	LF	\$ 2.00	\$ 400
3096	REMOVE AND RESET SILT FENCE	100	LF	\$ 1.50	\$ 150
3098	STABILIZED CONSTRUCTION ENTRANCE	20	TONS	\$ 20.00	\$ 400
3099	REHABILITATE STABILIZED CONSTRUCTION ENTRANCE	20	TONS	\$ 1.00	\$ 20
5003	HOT MIX ASPHALT BASE PAVEMENT FOR ROADWAYS: SUPERPAVE 25.0 MM, PG 64-22	60	TONS	\$ 75.00	\$ 4,500
5004	HOT MIX ASPHALT SURFACE PAVEMENT FOR ROADWAYS: SUPERPAVE 12.5 MM, PG 64-22	40	TONS	\$ 100.00	\$ 4,000
6033	REMOVE REPLACE FENCE	128	LF	\$ 10.00	\$ 1,280
7002	PLACING FURNISHED TOPSOIL	35	CY	\$ 60.00	\$ 2,100
7004	TEMP MULCH	420	SY	\$ 0.10	\$ 42
7006	PERMANENT SEEDING	40	SY	\$ 1.25	\$ 50
7014	SOD	382	SY	\$ 6.00	\$ 2,292
7017	SELECTIVE TREE TRIMMING; 6 1/4 INCHES OR LARGER (NOT FELLING)	4	CH	\$ 150.00	\$ 600
7019	ADDITIONAL WATERING OF SOD, PLANTS, AND SEEDED AREAS	100	1000 GAL.	\$ 1.00	\$ 100
7020	TREE ROOT PRUNING	100	LF	\$ 2.00	\$ 200
SUBTOTAL					\$ 24,727
30% CONTINGENCY					\$ 7,418
TOTAL CONSTRUCTION					\$ 32,145

TREE REMOVAL & PLANTING CONTRACT

STREET TREES PLANTING	45	EA	\$ 250.00	\$ 11,250
TREE REMOVAL INCLUDING STUMP	15	EA	\$ 1,500.00	\$ 22,500

TOTAL FOR CONTRACT

\$33,750

ROUNDED TOTAL FOR CONSTRUCTION INCLUDING TREE WORK

\$65,900

ABBREVIATIONS

CH = CREW HOUR

CY = CUBIC YARD

SY = SQUARE YARD

SF = SQUARE FOOT

LF = LINEAR FOOT

EA = EACH

LS = LUMP SUM

VF = VERTICAL FOOT

HR = HOUR

GAL = GALLON

BRYANT'S NURSEY ROAD DBU SEGMENT
CIP No. 501117
ENGINEER'S COST ESIMATE FOR BRIDGE
June 12, 2018

NO.	ITEM	QTY.	UNIT	UNIT PRICE	TOTAL COST
1001	REMOVE EXISTING BRIDGE	1	LS	\$ 8,000.00	\$ 8,000
1002	TEMPORARY STREAM DIVERSION	1	LS	\$ 50,000.00	\$ 50,000
1008	CLASS III EXCAVATION	190	CY	\$ 60.00	\$ 11,400
1020	SELECT BACKFILL	50	TON	\$ 65.00	\$ 3,250
1023	STREAM ARMOURING	1	LS	\$ 50,000.00	\$ 50,000
1020	HEADWALL AND ENDWALL	1	LS	\$ 20,000.00	\$ 20,000
1023	BOX CULVERT	60	LF	\$ 1,000.00	\$ 60,000
1026	BRIDGE TRAFFIC BARRIER	54	LF	\$ 200.00	\$ 10,800
1027	ROADWAY TRAFFIC BARRIER	80	LF	\$ 24.00	\$ 1,920
SUBTOTAL					\$ 215,370
30% CONTINGENCY					\$ 64,611
TOTAL CONSTRUCTION					\$ 279,981

BRYANTS NURSEY ROAD DBU SEGMENT

CIP No. 501117

ENGINEER'S COST ESTIMATE: TOTAL COMBINED FOR BRIDGE AND NON-BRIDGE CONSTRUCTION

June 22, 2018

ITEM	BRIDGE ESTIMATE	ROADWAY ESTIMATE	TOTAL CONSTRUCTION COST
CONSTRUCTION MATERIALS AND LABOR & TREE REPLACEMENT	\$279,981	\$65,900	\$345,881

APPENDIX H

Design, Property Acquisition and Construction Management Cost Estimate

Project: Bryants Nurset Road DBU**Cost Estimate for Design of County Manhours, Testing, Fees, and Property Acquisition****Design (12)**

		FY21		
	Hourly Rate	Duration (month)	Hours/Month	Cost
Bridge Design (Including H&H study)	LS			350,000
Transportation Design	110	6	80	52,800
Topographic and Boundary Survey (LS)	LS			10,000
Geotechnical Survey (LS)	LS			10,000
Stormwater Management Concept Fee	LS			2,000
Other Permit Fees	LS			3,500
Total Cost				\$428,300

Property (14)

		FY21		
	Hourly Rate	Duration (month)	Hours/Month	Cost
Permanent Easement (LS)		0	0	0
Temporary Easement (LS)		0	0	0
Appraisals (LS)		0	0	0
Property Acquisition Staff		0	0	0
Total Cost				\$0

Construction Mgt (13)

		FY21		
	Hourly Rate	Duration (month)	Hours/Month	Cost
Construction Management	100	10	65	65,000
Inspection and Testing (LS)				5,000
Total Cost				\$70,000